

RECEIVED
CENTRAL FAX CENTER

JUL 31 2006

PATENT

Serial No. 10/517,976

Amendment in Reply to Final Office Action of May 5, 2006

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) ~~Method~~ A method for coding a stream of input words using a channel code, the method

comprising the ~~steps~~ acts of:

precoding the stream of input words into a stream of precoded input words; and

coding the stream of precoded input words into a stream of groups of N code words;

~~characterized in that wherein a~~ combined running digital sum of each group of N adjacent code words equals zero.

2. (Currently amended) ~~Method~~ The method as claimed in claim 1, ~~characterized in that wherein~~ N equals 2.

PATENT

Serial No. 10/517,976

Amendment in Reply to Final Office Action of May 5, 2006

3. (Currently amended) ~~Method~~ The method as claimed in claim 1, ~~characterized in that wherein~~ after the step of coding the stream of precoded input words into a stream of groups of N code words the method comprises the step of storing the groups of N code words ~~using words using~~ a groove position modulation on a storage medium.

4. (Currently amended) ~~Method~~ The method as claimed in claim 1, ~~characterized in that wherein~~ coding the precoded stream of input words is achieved using a parity preserving coder.

5. (Currently amended) ~~Method~~ The method as claimed in claim 1, ~~characterized in that wherein~~ coding the precoded stream of input words is achieved using a parity inverting coder.

6. (Currently amended) ~~Method~~ The method as claimed in claim 4, ~~wherein characterized in that~~ the parity preserving coder is a 17PP coder.

7. (Currently amended) ~~Method~~ The method as claimed in claim

PATENT

Serial No. 10/517,976

Amendment in Reply to Final Office Action of May 5, 2006

6, ~~characterized in that wherein~~ the stream of ~~M input input~~ words
is precoded using the following table:

In	Out
00	1010
01	0001
10	0111
11	0101
1010	00001000.

8. (Currently amended) ~~Method~~ The method as claimed in claim
6, ~~characterized in that wherein~~ the stream of ~~M of~~ input words is
precoded using the following table:

In		Out
00	->	-10 10
10	->	00 01
11	->	-01 11
01	->	01 01

PATENT
Serial No. 10/517,976

Amendment in Reply to Final Office Action of May 5, 2006

11 11 -> 00 00 10 00.

9. (Currently amended) ~~Method~~ The method as claimed in claim 7, ~~characterized in that wherein before the step act of~~ storing the groups of N code words in using the groove position modulation on the storage medium remaining DC components are removed using a high-pass filter.

10. (Currently amended) ~~Apparatus~~ An apparatus for storing data on a recording medium comprising an encoder which arranged for coding the stream of precoded input words into a stream of groups of N code words and comprising a precoder for coding the stream of input words into a stream of precoded input words, ~~characterised in that wherein a combined~~ running digital sum of each group of N adjacent code words equals zero.

11. (Currently amended) ~~Apparatus~~ The apparatus as claimed in claim 10, ~~characterized in that wherein~~ N equals 2.

PATENT

Serial No. 10/517,976

Amendment in Reply to Final Office Action of May 5, 2006

12. (Currently amended) ~~Apparatus~~ The apparatus as claimed in claim 10, ~~characterized in that wherein~~ the apparatus is arranged for storing the groups of N code words using a groove position modulation on a storage medium.

13. (Currently amended) ~~Apparatus~~ The apparatus as claimed in claim 10, ~~characterized in that wherein~~ the encoder is a parity preserving coder.

14. (Currently amended) ~~Apparatus~~ The apparatus as claimed in claim 10, ~~characterized in that wherein~~ the encoder is a parity inverting coder.

15. (Currently amended) ~~Apparatus~~ The apparatus as claimed in claim 13, ~~characterized in that wherein~~ the parity preserving coder is a 17PP coder.

16. (Currently amended) ~~Apparatus~~ The apparatus as claimed in claim 15, ~~characterized in that wherein~~ the precoder is operative to precode the stream of ~~M input~~ input words using the following

PATENT
Serial No. 10/517,976

Amendment in Reply to Final Office Action of May 5, 2006

table:

In	Out
00	1010
01	0001
10	0111
11	0101
1010	00001000.

17. (Currently amended) ~~Apparatus~~ The apparatus as claimed in claim 15, ~~characterized in that wherein~~ the precoder is operative to precode the stream of M ~~input~~ input words using the following table:

In		Out
00	->	-10 10
10	->	00 01
11	->	-01 11
01	->	01 01

PATENT
Serial No. 10/517,976
Amendment in Reply to Final Office Action of May 5, 2006

11 11 -> 00 00 10 00.

18. (Currently amended) ~~Apparatus~~ The apparatus as claimed in claim 16, ~~characterized in that wherein~~ the apparatus is operative to remove remaining DC components using a high-pass filter before storing the groups of N code words using the groove position modulation on the storage medium.

19. (Currently amended) ~~Record~~ A record carrier comprising a stream of ~~M input~~ input words stored as a stream of groups of N code words,

~~characterized in that wherein~~ a combined running digital sum of each group of N adjacent code words equals zero.

20. (Currently amended) ~~Record~~ The record carrier as claimed in claim 19,

~~characterized in that wherein~~ N=2.

21. (Currently amended) ~~Record~~ The record carrier as claimed in claim 19,

PATENT
Serial No. 10/517,976

Amendment in Reply to Final Office Action of May 5, 2006

~~characterized in that wherein~~ the groups of N code words are stored using a groove position modulation.

22. (Currently amended) ~~Record~~ The record carrier as claimed in claim 19,

~~characterized in that wherein~~ the stream of ~~M input~~ input words is precoded using the following table:

In	Out
00	1010
01	0001
10	0111
11	0101
1010	00001000.

23. (Currently amended) ~~Record~~ The record carrier as claimed in claim 19,

~~characterized in that wherein~~ the stream of ~~M input~~ input words is precoded using the following table:

PATENT
Serial No. 10/517,976

Amendment in Reply to Final Office Action of May 5, 2006

In	Out
00	1010
10	0001
11	0111
01	0101
1111	00001000.

24. (Currently amended) ~~Method~~ A method for decoding a stream of N code words into a stream of M output words,

~~characterized in that~~ wherein the stream of M output words is postcoded using the following table:

In	Out
1010	00
0001	01
0111	10
0101	11
00001000	1010.

25. (Currently amended) Method for decoding a stream of N code

PATENT

Serial No. 10/517,976

Amendment in Reply to Final Office Action of May 5, 2006

words into a stream of M output words,

~~characterized in that~~ wherein the stream of M output words is
postcoded using the following table:

In	Out
1010	00
0001	10
0111	11
0101	01
00001000	1111 ₁